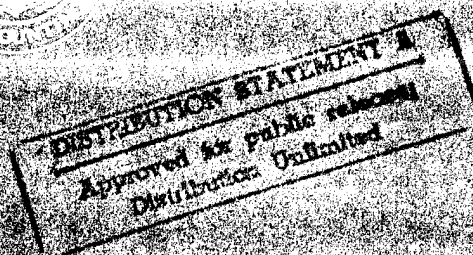
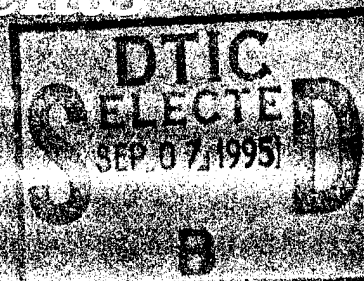


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NUCLEAR WASTE

Summary of Actions to Remediate the Hanford Site Assessment



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DTIC QUALITY INSPECTED 1

Resources, Community, and
Economic Development Division

B-248093

June 10, 1992

The Honorable Philip R. Sharp
Chairman, Subcommittee on Energy and Power
Committee on Energy and Commerce
House of Representatives

The Honorable Peter H. Kostmayer
Chairman, Subcommittee on Energy
and the Environment
Committee on Interior and Insular Affairs
House of Representatives

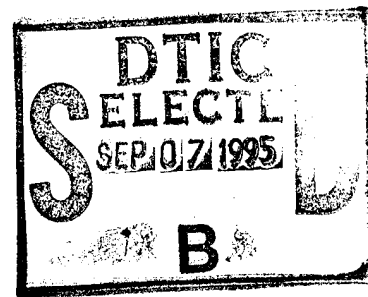
The Nuclear Waste Policy Act of 1982 (NWPA), as amended, requires the Department of Energy (DOE) to develop a deep underground repository for the safe, permanent disposal of civilian- and government-owned nuclear wastes. DOE estimates that the program will, during its nearly 100-year life, cost about \$26 billion if one repository is built and \$34 billion if two repositories are built (in constant 1988 dollars).¹ You requested that we follow up on the actions taken by DOE to implement the recommendations made in our June 1990 report on DOE's periodic assessments of whether the fees charged to utilities operating nuclear power plants are adequate to cover the costs of the civilian nuclear waste disposal program.² In that report we said that DOE's methods for estimating program costs and revenues and for assessing fee adequacy did not adequately recognize uncertainties, such as inflation, that are inherent in this long-term program.

This report discusses the results of our follow-up review. It also discusses an issue not addressed in our June 1990 report, namely, the need to disclose in the fund's financial statements the possibility that a portion of the one-time user fees due from utilities may be uncollectible because of the uncertain financial condition of some utilities.

DOE's estimate of program costs increased by more than \$12 billion from 1983 to 1989, of which about one-third, or about \$4.5 billion, was attributable to inflation in that period. To help ensure that sufficient

¹These estimates do not take into account future inflation that could make the actual costs substantially higher.

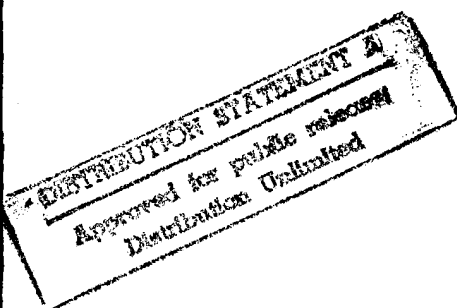
²Nuclear Waste: Changes Needed in DOE User-Fee Assessments to Avoid Funding Shortfall (GAO/RCED-90-65, June 7, 1990).



Jun 92
Nuclear Waste:
Status of Actions
to Improve DOE
User-Fee
Assessments

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
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Results in Brief



eliminate the 70,000-metric-ton ceiling, a second repository may still be needed because, as we reported in September 1988, it is uncertain whether the Yucca Mountain site will hold more than 70,000 metric tons of waste.⁵

Prior to our June 1990 report, we issued a report in which we recommended that the Secretary of Energy use a realistic inflation rate estimate in determining the fee needed to produce sufficient revenues to recover total program costs.⁶ The Secretary adopted our recommendation in November 1990 by using a 4-percent inflation rate. Also, in May 1991 we testified on changes needed in DOE's fee assessment process before the Subcommittee on Energy and Power, House Committee on Energy and Commerce.⁷

Indexing Fee Can Help Prevent Funding Shortfall and Ensure Equitable Treatment of Ratepayers

In our June 1990 report, we said that unless careful attention is given to its financial condition, the nuclear waste program is susceptible to future budget shortfalls that would have to be made up by (1) charging those utilities still operating nuclear plants disproportionately higher disposal fees, (2) using federal appropriations, or (3) using a combination of the two. For example, in the first 6 years of the program, its estimated cost (with two repositories) had increased from less than \$20 billion (in 1982 dollars) to about \$32 billion (in 1988 dollars). About \$4.5 billion of the \$12 billion increase in estimated costs was due to inflation, and the rest represented real cost growth, such as the cost of adding a monitored retrievable storage facility to the planned program. Furthermore, we said, DOE's own internal estimates showed that the fund may have already been underfunded by \$2.4 billion to \$4.1 billion (in discounted 1988 dollars).⁸

We concluded that, in view of the long estimated life of the nuclear waste program and uncertainty in both real and inflation-related program costs, automatically adjusting the nuclear waste disposal fee on the basis of the annual rate of inflation could help prevent funding shortfalls. We also said that indexing could ensure equitable treatment of current and future ratepayers by keeping the real value of the fee constant over time.

⁵Nuclear Waste: Fourth Annual Report on DOE's Nuclear Waste Program (GAO/RCED-88-131, Sept. 28, 1988).

⁶Nuclear Waste: DOE Should Base Disposal Fee Assessment on Realistic Inflation Rate (GAO/RCED-88-129, July 22, 1988).

⁷Nuclear Waste: Changes Needed in DOE User-Fee Assessments (GAO/T-RCED-91-52, May 8, 1991).

⁸DOE's internal estimates were actually \$44 billion to \$77 billion in constant 1988 dollars. We adjusted the estimates to account for real interest—the time value of money—and thus show the present value of DOE's estimate.

In commenting on a draft of our June 1990 report, DOE agreed that automatically adjusting the fee for inflation—rather than proposing larger, less frequent adjustments—appears to be the most appropriate mechanism.⁹ DOE also said that legislation authorizing automatic indexing would better provide equal treatment to current and future ratepayers and would provide utilities a predictable method of planning for future rate increases.

In November 1990, however, DOE reversed its position and opposed the automatic indexing of the disposal fee to the rate of inflation. DOE cited the reasons for changing its position in a letter to congressional committees. Specifically, DOE said that all factors affecting the fund's balance should be considered in determining whether the fee should be changed, and fee indexing is only one variable. Also, automatic indexing would mean that DOE would not justify, as required by law, all fee changes to the Congress. A DOE official also told us that DOE was sympathetic to utility concerns that, under an indexing system, fees would rise annually without a comprehensive review of the fee.

DOE's arguments against fee indexing, in our opinion, are invalid. To ensure full cost recovery, the fee may need to be adjusted to recognize both real changes in the annual estimates of program costs and revenues, and changes that are due to inflation. Indexing the fee to the rate of inflation would essentially remove inflation as a significant uncertainty in future program fee adequacy assessments. It would also promote equal treatment of present and future utility ratepayers. DOE would still need to, as the act requires, (1) review the adequacy of the fee each year to determine if fee adjustments are warranted because of changes in the real cost and/or revenue estimates and (2) justify any such adjustments to the Congress. Finally, indexing would help ensure that inflation costs are covered in those years when DOE does not, as has happened in the past, make annual assessments.

DOE's Growing Liability to Fund Is Becoming a Major Budget Burden

Although NWPA requires that DOE pay its share of nuclear waste program costs before it can begin disposing of its highly radioactive waste in a repository—currently scheduled for 2015—the executive branch has not requested any appropriations from the Congress to cover DOE's share of program costs, and it is unlikely to do so in the foreseeable future. In 1990 DOE considered starting to pay its fair share of program costs in fiscal year

⁹However, in discussing our related recommendation to use a realistic inflation rate estimate to determine when to implement the inflation indexing system, DOE said that it preferred to use a range of inflation rates rather than a single base case.

1991, including paying off the amount it already owed over a 10-year period. More recently, however, an official of DOE's Office of Environmental Restoration and Waste Management (EM) told us that budget constraints are forcing DOE to choose between funding programs with present-day benefits, such as cleaning up the nuclear waste complex, and paying its share of the waste disposal program, which will provide future benefits. Although the Director of DOE's Office of Civilian Radioactive Waste Management (OCRWM) testified in February 1992 that DOE may wait until it can begin disposing of defense wastes before making payments, he told us in April 1992 that this statement does not reflect OCRWM's preferred timing of payment and that DOE had not yet reached a final decision on this matter.

Currently, DOE estimates that it will begin waste disposal in 2015. Considering forecasts of inflation and interest rates between now and then, we estimate that, without additional payments, DOE will owe the fund about \$11.7 billion, of which about \$8 billion is interest, in 2015.¹⁰ After discounting to 1992 dollars, the future debt and interest costs are \$2.1 billion and \$1.4 billion, respectively.

We estimate that it will cost between \$150 billion and \$200 billion to clean up and modernize DOE's weapons complex facilities through 2019. Thus, it is unlikely that current budget constraints will substantially decrease by 2015, when DOE is to start disposing of its wastes.

Although the executive branch did not request funding, DOE paid the Nuclear Waste Fund \$5 million and \$7.5 million for fiscal years 1991 and 1992, respectively, at the direction of the congressional appropriations committees. In its report on the Energy and Water Development Appropriation Bill for fiscal year 1992, the Senate Committee on Appropriations said that it was dismayed that no funds were requested for this purpose. Also, the Committee said that this obligation should continue to be addressed annually, even if only as a demonstration of good faith and intention.

DOE's Liability to the Nuclear Waste Fund Is Not Recorded

DOE has fully implemented our recommendation to disclose its contingent liability for its share of the total program costs. As reported in November 1990, DOE estimated its share of program costs at between \$3.8 billion and \$5.8 billion (in 1988 dollars), depending on whether one or two

¹⁰DOE announced in August 1987 its intention to pay interest on the accumulated debt (see 52 FR 31510, Aug. 20, 1987).

repositories are built. DOE's contingent liability was disclosed in (1) OCRWM's December 1990 Annual Report to Congress, which contained the financial statements of the Nuclear Waste Fund for fiscal years 1988 and 1989, (2) DOE's November 1990 fee adequacy report, and (3) the analyses issued by DOE's Office of the Controller on DOE's financial statements for fiscal years 1990 and 1991.

We estimate that DOE's actual liability to the fund for program costs incurred as of March 1992 was about \$700 million. DOE's financial statements do not record this liability. Also, at the time of our June 1990 report, the fund's financial statements did not show DOE's debt as an accounts receivable. The fund statement issued in December 1990, however, included a statement note recognizing the debt as receivable but saying that no accrual was included in the balance sheet because (1) the Congress had not appropriated any funds for DOE to begin paying the fees and (2) no agreement existed between OCRWM and EM—the office responsible for administering DOE's weapons complex cleanup—on a payment schedule.

We would point out that, although the executive branch's budget has never included a request to fund DOE's debt, DOE paid a total of \$12.5 million to the fund in fiscal years 1990 and 1991 at the direction of the congressional appropriations committees. Also, since the act itself requires DOE to pay its fair share of waste disposal costs to the fund and DOE has selected a method for allocating program costs between itself and the utilities, all requisites for a liability have been established. Accordingly, we see no reason why the fund should not record DOE's liability as an accounts receivable.

DOE officials agreed with us on the need to account for this liability and said that they plan to make the necessary entries on DOE's fiscal year 1992 financial statements. Such action, along with a corresponding entry on the fund's financial statements showing a receivable from DOE, will result in consistent reporting by DOE and the fund.

Financial Statements Do Not Reflect Potential Uncollectible Receivables of \$2 Billion

The IG and the certified public accounting firm auditing the Nuclear Waste Fund arrived at different opinions regarding the potential uncollectibility of the one-time fees that utilities owe the fund. The IG reported in March 1990 that the uncertain financial condition of 11 of 17 utilities casts doubt on their ability to pay the moneys they will owe the fund by 2003. The accounting firm, however, determined that no allowance for uncollectibles was needed. OCRWM is currently reviewing the utilities' financial condition in an attempt to resolve these disparate positions.

The Nuclear Waste Fund's financial statements for the fiscal year ending September 30, 1991, record a receivable from utilities for one-time fees and accumulated interest of about \$1.7 billion. The statements, however, do not disclose that, as reported by the IG, there is a possibility that some of these funds may be uncollectible when due.

The IG, assisted by a certified public accounting firm, analyzed the financial condition of the 17 utilities owing one-time fees. On the basis of this analysis, the IG reported that the financial condition of 11 of these utilities casts doubt on their ability to pay about \$2 billion of the fees they will owe by 2003. According to an OCRWM official, the potential uncollectibility of one-time fees was not disclosed in the fund's statement because the accounting firm auditing the statements determined that no allowance for uncollectibles was needed. He said that the firm's determination was based on an analysis of the receivables, which included examining such things as the utilities' bond ratings.

The IG reported that, because the amounts owed by the utilities are not due for more than 20 years, it is not possible to assess the degree of risk for the debt collection. In commenting on a draft of the IG report, OCRWM management agreed that "some degree of uncertainty exists concerning the future ability of a few utilities to pay the one-time fee." But it said that it strongly disagreed with the conclusion that this uncertainty was of such magnitude to warrant the actions the IG proposed in its draft report to ensure collection—such as requiring the utilities to pay the Nuclear Waste Fund amounts collected from ratepayers to cover the one-time fee.

In March 1990, the Secretary of Energy directed that OCRWM and the IG come to agreement on the actions needed to ensure collection of all one-time fees. Although no action had been taken as of April 1992, OCRWM is requesting financial data from the utilities to better determine their financial conditions and the potential risks regarding the collectibility of the one-time fees.

An IG official told us in March 1992 that the IG had not changed the position taken in its March 1990 report regarding the uncertainty of the debt collection. Thus, as pointed out by the IG, a sizeable default on these debts would have to be covered by other utilities that have already paid their fees and/or by the federal government. We believe that this uncertainty should be disclosed in the financial statements or accompanying notes as provided for in the accounting principles adopted by the fund—title 2 of the GAO Policy and Procedures Manual for Guidance of Federal Agencies.

The Chief Financial Officers Act of 1990 was enacted to provide for, among other things, the production of complete, reliable, timely, and consistent financial information for use by the executive and legislative branches of government in the financing, management, and evaluation of federal programs. Such information can provide valuable insight on the financial viability of federal programs and an early warning of developing problems before they reach critical proportions. In our view, disclosing the uncertainty surrounding the collectibility of the one-time fees that the utilities owe the fund would be consistent with the act's objectives.

Actions Taken on Other Recommendations

DOE has taken full or partial action on all but one of our remaining recommendations. To make the annual cost estimates of the nuclear waste program more reliable and useful, we recommended that the Secretary of Energy (1) ensure that the estimates include the costs of all major facilities, tasks, and activities or, if excluded, explain the rationale for such exclusion; (2) have estimates made for additional scenarios, such as program delays and a finding that Yucca Mountain would not be suitable for a repository; and (3) ensure that all major cost categories of the estimates adequately provide for contingencies and that the total portion of the estimates devoted to contingencies be disclosed.

Although DOE agreed with the need to ensure that its published estimates include all costs or explain their exclusion, DOE did not implement this recommendation in preparing the estimate for its November 1990 fee adequacy report. A detailed description of this estimate was published in December 1990.¹¹ DOE described the estimate as (1) an addendum to its May 1989 estimate and (2) a preliminary estimate of the program as restructured by the Secretary of Energy, on the basis of a program reassessment released in November 1989. According to DOE officials, our recommendation to include all costs or explain their exclusion was not

¹¹Preliminary Estimates of the Total-System Cost for the Restructured Program: An Addendum to the May 1989 Analysis of the Total-System Life Cycle Cost for the Civilian Radioactive Waste Management Program (DOE/RW-0295P, Dec. 1990).

implemented in the December 1990 publication describing the estimate because DOE believed it inappropriate to include new information in this estimate as it was intended only as an update to its prior estimate. They said, however, that this will be done in the next estimate, which will be released later this year.

DOE continues to disagree with the need to make estimates for additional scenarios. In its November 1990 letter to congressional committees, DOE said that it will continue to perform analyses of less likely scenarios, including analyses similar to those we suggested, for other purposes, but strongly disagrees that such estimates be used to determine the adequacy of the fee. As stated in our report, we believe that the impact of such events on program costs and thus fees would interest the Congress and others. Therefore, as we recommended previously, DOE should publish these analyses. This does not suggest that such scenarios be used to set the fee, but only that they be used to provide information to answer questions about "what if" situations for contingency planning.

As promised in its comments on our draft report, DOE did aggregate and disclose the contingency allowance provided for in its December 1990 estimates of the repository and the monitored retrievable storage facility. Also, it began a study to determine the feasibility of developing a contingency allowance for its estimate of development and evaluation costs. The OCRWM Director said that the contractor study was suspended when and because the Yucca Mountain Project Office initiated its own review and that, when this is completed, a decision will be made on the need to resume the contractor's study.

Conclusions

Considering the huge cost of the nuclear waste program—an estimated \$26 billion to \$34 billion—and the many uncertainties that may affect costs and revenues during the program's life of nearly 100 years, the program's financial condition must receive careful attention to avoid future shortfalls that could total billions of dollars. Inflation has added about \$4.5 billion to the costs of the program during its first 6 years and is likely to add substantially more in the future. An inflation indexing system would automatically adjust the fee and permit DOE to concentrate its fee assessments on changes in the real costs of the program. Moreover, as DOE itself pointed out in commenting on a draft of our June 1990 report, indexing would fairly distribute program costs among present and future ratepayers as the purchasing power of the dollar changes over time.

DOE no longer agrees with our recommendation that the Nuclear Waste Policy Act should be amended to authorize indexing because, among other reasons, it believes that assessments need to consider all factors affecting the fee, not just inflation. We believe that indexing would not preclude DOE from considering all factors affecting the fee but merely make inflation adjustments automatically. Moreover, because of DOE's opposition to fee indexing, we now believe that the act may have to be amended to require, rather than simply authorize, DOE to index the fee.

DOE has not been paying its share of program costs and has no plans to do so in the foreseeable future because of budget constraints due to costs related to cleaning up and modernizing its nuclear weapons complex. This is not a prudent approach considering that, unless DOE begins to make payments to the fund, its future budget problems may worsen as its debt grows. DOE has already accumulated a debt of more than \$700 million, which, without additional payments, will grow to about \$2 billion (in discounted 1992 dollars) when DOE plans to begin disposing of its waste in the repository in 2015. Since the act requires DOE to pay its proportionate share of program costs before disposing of its waste, DOE will have this expense as well as that for the weapons complex cleanup and modernization, scheduled to be completed in 2019. DOE and the executive branch need to take a more long-range view of DOE's budget requirements and pay off DOE's debt by the year 2015 or sooner.

DOE has implemented some of our recommendations, but actions are yet to be completed on

- recording DOE's liability to the Nuclear Waste Fund,
- ensuring that its published estimates include all costs or explaining the rationale for their exclusion, and
- ensuring that all major cost categories of the estimates adequately provide for contingencies and that the total portion of the estimate devoted to contingencies be disclosed.

Although DOE's IG reported some uncertainties regarding the collectibility of about \$2 billion in one-time fees that utilities owe the Nuclear Waste Fund, the fund's financial statements do not disclose that there is a potential that some of the one-time fees owed the fund may be uncollectible. Accordingly, the statements DOE prepares do not fully disclose the health of the fund or the likelihood of funding shortfalls. OCRWM is, however, currently reviewing the utilities' financial condition to determine the potential risk regarding the collectibility of the one-time

fees. Once this is done, DOE should disclose in the fund's statements what, if any, portion of the amounts owed may be uncollectible.

Recommendation to the Congress

We recommend that the Congress amend the Nuclear Waste Policy Act of 1982 to require the Secretary of Energy to automatically adjust the nuclear waste disposal fee that utilities pay to the Nuclear Waste Fund on the basis of the annual rate of inflation.

Recommendations to the Secretary of Energy

To help ensure that DOE can dispose of its highly radioactive waste in accordance with its current schedule, we recommend that the Secretary of Energy, in cooperation with the Director, Office of Management and Budget, (1) develop a payment plan to pay DOE's debt to the Nuclear Waste Fund by 2015 or sooner and (2) request annual appropriations from the Congress in accordance with such a plan.

We also recommend that the Secretary of Energy ensure that the financial statements of the Nuclear Waste Fund fully disclose the circumstances surrounding any uncertainties regarding the collectibility of the one-time fees owed by utilities, the potential impact on the fund resulting from any receivables that may be uncollectible, and any actions that DOE plans to take to deal with this matter.

Agency Comments

We discussed the information in this report with officials of EM, OCRWM, and the Office of Chief Financial Officer, who generally agreed with the information's accuracy. Their comments have been incorporated where appropriate. However, as your offices requested, we did not obtain written comments on a draft of this report.

Scope and Methodology

To determine the adequacy of DOE's actions to implement the recommendations of our June 1990 report, we interviewed officials of EM, OCRWM, and the Office of Chief Financial Officer; the contractor responsible for making DOE fee assessments; the accounting firm auditing the program's financial statements; the Federal Accounting Standards Advisory Board; and the Department of the Treasury. We also reviewed applicable legislation and congressional hearings; DOE records and files; and accounting policy guidance issued by DOE, the Federal Accounting Standards Board, us, and others. We performed our work between July

1991 and April 1992 in accordance with generally accepted government auditing standards.

As arranged with your offices, unless you publicly announce its contents sooner, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies of this report to the appropriate congressional committees, the Secretary of Energy, and the Director, Office of Management and Budget. Copies will also be made available to other interested parties upon request.

This work was performed under the direction of Victor S. Rezendes, Director of Energy Issues, who can be reached on (202) 275-1441. Other major contributors to this report are listed in appendix I.

A handwritten signature in black ink, appearing to read "J. Dexter Peach". The signature is fluid and cursive, with the first letter "J" being particularly large and stylized.

J. Dexter Peach
Assistant Comptroller General

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Related GAO Products

Nuclear Waste: Changes Needed in DOE User-Fee Assessments
(GAO/T-RCED-91-52, May 8, 1991).

Nuclear Waste: Changes Needed in DOE User-Fee Assessments to Avoid
Funding Shortfall (GAO/RCED-90-65, June 7, 1990).